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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,446	10/31/2003	Jitendra Balakrishnan	SP03-131	2845

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Kevin M. Able  
Corning Incorporated  
SP-TI-3-1  
Corning, NY 14831

EXAMINER
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DEGHAN, QUEENIE S

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 09/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/699,446

Applicant(s)

BALAKRISHNAN ET AL.

Examiner

Queenie Dehghan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 15 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-14, drawn to method for making an optical fiber, classified in class 65, subclass 421.
- II. Claims 15-16, drawn to an apparatus for depositing soot, classified in class 65, subclass 531.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions Group I and Group II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process, such as coating.

3. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

4. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required

because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Kevin Able on September 13, 2006 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-14. Affirmation of this election must be made by applicant in replying to this Office action. Claims 15-16 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Specification***

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Itou (English translation of JP 09-278477). Regarding claim 1, Itou discloses a method for making an optical fiber preform comprising providing a relative reciprocating motion between at least one soot producing burner and a consolidated glass rod, depositing a first layer on the rod and a first rate and direction, depositing a second layer on the first layer at a second rate slower than the first rate, in the first direction without sintering ([0006], [0007], Table 1), as evident by the need to sinter afterwards. Regarding claims 6 and 7, Itou also discloses a traverse rate in a second direction opposite the first direction is greater than the first traverse rate in the first direction and a deposition rate of zero during a traverse in the second direction ([0002]). Regarding claim 8, Itou disclose the use of two soot deposition burners (drawings 1& 2).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itou (English translation of JP 09-278477), as applied to claim 1 above, in view of Powers (4,726,827). Itou fails to disclose the traversing speed of the burners. Powers teaches a vapor deposition burner traversing at a rate at least about 10cm/s (col. 6 lines 40-44, col. 7 lines 58-63). It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the traversing speeds of the deposition burners, as exemplified by Powers in the process of Itou in order to obtain the desired thickness of the soot layers.

7. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itou (English translation of JP 09-278477), as applied to claim 1 above, in view of Yokokawa et al. (4,874,416). Itou fails to disclose the thickness of the soot layers deposited. Yokokawa et al. teach a first soot layer (core layer) to be 17.5mm. It would have been obvious to one of ordinary skill in the art at the time the invention was made to control the thickness of the various soot layers in the vapor deposition of a optical preform, such as the core layer of Yokokawa et al. in the process of Itou in order to for the desired core/clad ratio in the final optical fiber.

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8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Itou (English translation of JP 09-278477), as applied to claim 8 above, in view of Itoh et al. (2003/0101772). Itou fail to disclose the temperatures of the two burners. Itoh et al. teach a two burners system used where the temperature of a second burner is less than a temperature of a first burner ([0016] [0017], [0028]) used to preheat the surface of a starting material for deposition. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the two different temperatures of the two burners of Itoh et al. in the process of Itou in order to prevent shearing and stripping of cladding layers while sintering.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Itou (English translation of JP 09-278477), as applied to claim 1 above, in view of Seto et al. (English Abstract of JP 63123829). Itou fails to disclose the deposition of the first layer of glass soot comprising a fuel free of hydrogen. Seto et al. teach depositing a soot layer to form a core part using a fuel gas containing no hydrogen to prevent the diffusion of OH groups to a core part of an optical fiber (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the hydrogen free fuel of the Seto et al. in the process of Itou in order to obtain a preform with low transmission loss, as taught by Seto et al.

10. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itou (English translation of JP 09-278477), as applied to claim 1 above, in view of Ooishi et al. (2002,0073737). Itou fails to disclose the diameter of the glass rod. Ooishi et al. teach using a starting rod with a diameter of at least 32mm ([0045], [0061]). It

would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the starting rod diameter of Ooishi et al. in the process of Itou in order to obtain the desired outer diameter preform.

11. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Itou (English translation of JP 09-278477), as applied to claim 1 above, in view of Fogliani et al. (WO 02/090276) or Schultz (3,826,560). Itou fails to disclose a reciprocating motion comprising attaching a glass rod to movable support and traversing the support relative to the burner. Fogliani et al. teach an embodiment where the core rod is traversed with respect to the burner (page 14 lines 19-22). In order to do so, it would have been obvious to one of ordinary skill in the art to expect a support that holds and moves the rod. Similarly, Schultz discloses traversing a starting rod while a burner deposits soot (col. 4 lines 35-41). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the step of traversing the starting rod on a movable support of Fogliani et al. or Schultz in the process of Itou as it a known option in vapor deposition, when the burners are held in a fixed position.

12. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Itou (English translation of JP 09-278477) and Fogliani et al. (WO 02/090276) or Schultz (3,826,560), as applied to claim 13 above, in view of Springate (3,421,560). Fogliani et al. and Schultz both teach the traversing of the rods, but fail to disclose a damping force for the movement of the support for the glass rod. However, Springate teach a movable frame that traverses in one direction and turns around (figure 2), wherein hydraulic cylinders with pistons are used to dampen the movement of the rolls, in the same



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manner as a shock absorber (col. 3 lines 9-16), to provide control movement of the rolls. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the damping effects of the Springate in the process of Itou and Fogliani et al. or Schultz in order to control the movement of the movable support and compensate for wear on the mechanical parts, as taught by Springate.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Queenie Dehghan whose telephone number is (571)272-8209. The examiner can normally be reached on Monday through Friday 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Q Dehghan

  
STEVEN P. GRIFFIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700